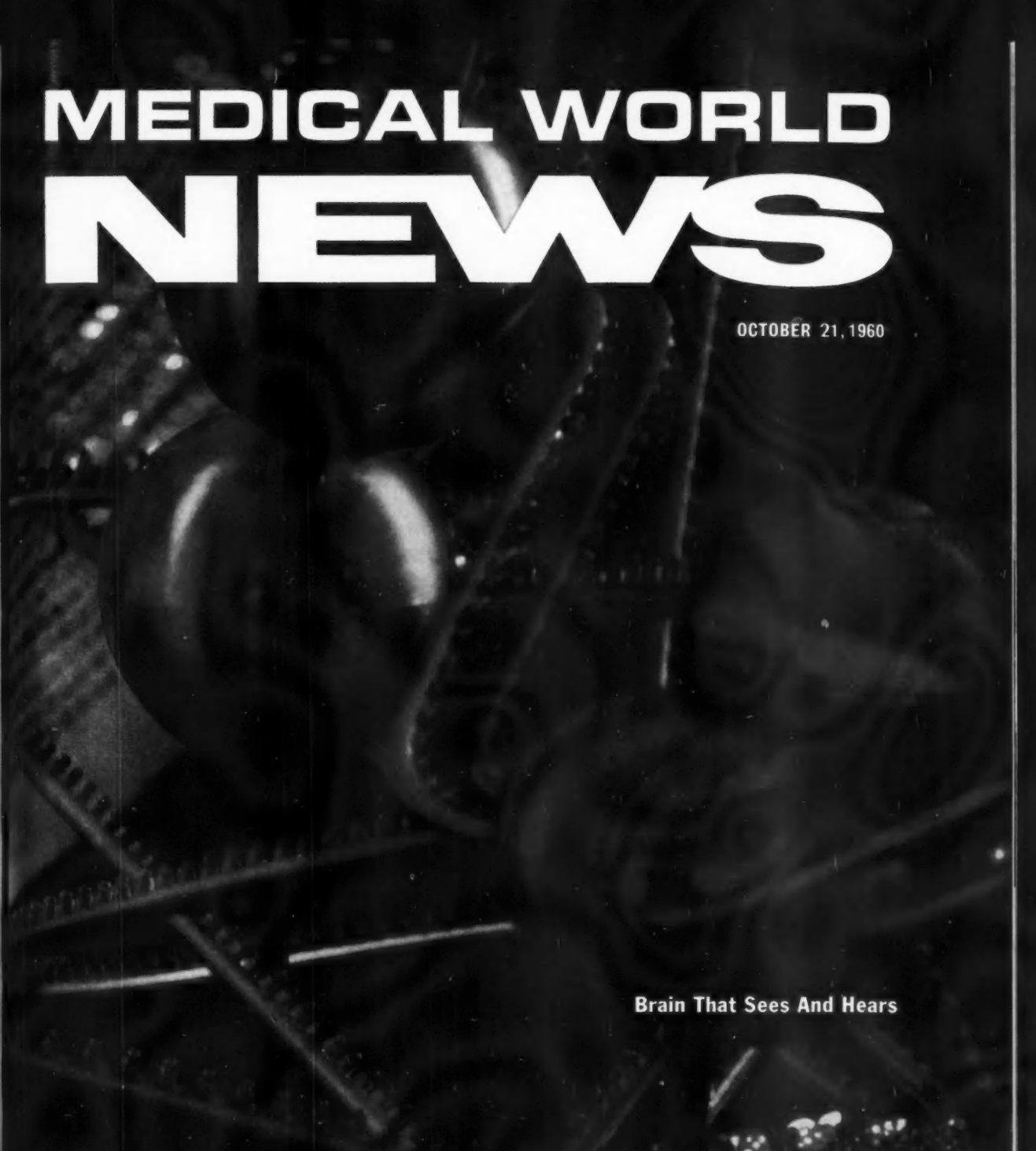
MEDICAL WORLD NEWS

OCTOBER 21, 1960



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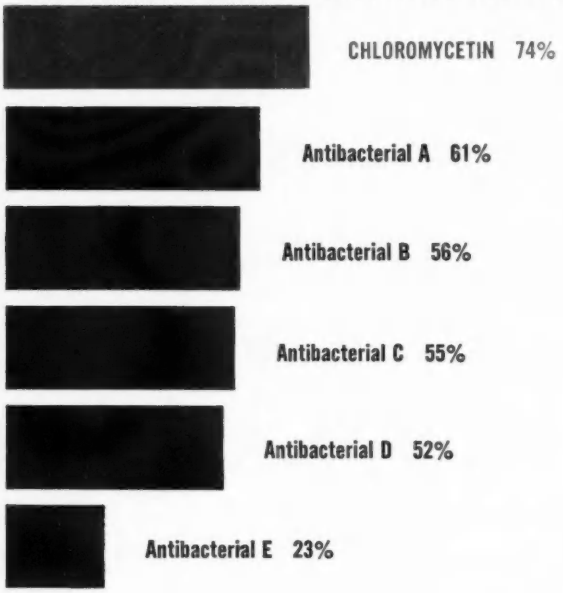

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REFERENCES: 1. Ford, R. V., and Nickell, J.: Ant. Med. & Clin. Ther. 6:461, 1959. **2.** Fuchs, M., and Mallin, S. R.: Int. Rec. Med. 172:438, 1959. **3.** Ford, R. V.: Int. Rec. Med. 172:434, 1959.

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VOL. 1, NO. 14

THE NEWSMAGAZINE OF MEDICINE

MEDICAL WORLD NEWS

OCTOBER 21, 1960

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On the cover: Metal disks, 45,000 light bulbs and 40 miles of wiring are used in a mechanical brain that shows what happens when a human brain becomes conscious of a sensation. Story on p. 12

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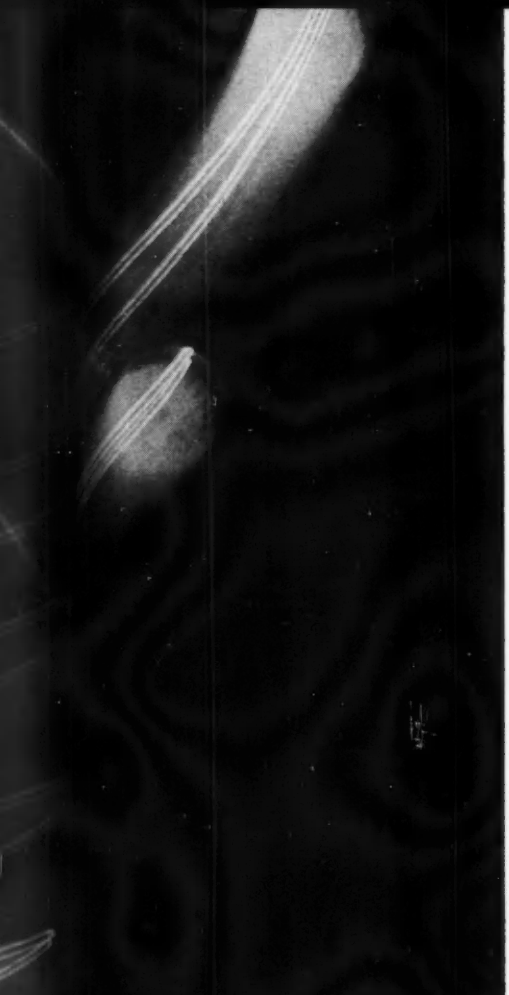

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LATE NEWS

NEW ANESTHETIC REDUCES NEED FOR CONFINEMENT

A new, short-acting, non-barbiturate anesthetic for minor surgery may help relieve overcrowding of hospitals because it enables patients to be ambulatory shortly after an operation, according to Dr. Jacques Boureau, an anesthetist at L'Hôpital Broca in Paris.

The drug, known as G29505, is diethylamide of eugenolglycolic acid. It is the first of a new chain of synthetic drugs, and its mode of action is not completely understood, according to the French doctor.

G29505 has been tried on several thousand patients in Germany, Austria, France and Switzerland, in doses of 5 mg/kg by intravenous injection. After injection of a single dose, the patient undergoes three periods: a very short anesthetic period of 60 to 90 seconds, a hypnotic period lasting three to four minutes and a still longer analgetic period.

If curare is added, the anesthetic period is increased to four or five minutes. When G29505 is used with short-acting relaxants such as succinylcholine iodide or succinylcholine chloride, anesthesia will last until the end of the second period. Then, because of the extended analgetic effect of the drug, narcosis can be completed with oxygenated nitrous oxide.

Repeated doses of G29505 are not advised, however, because hyperventilation follows administration, the anesthetist added. There are no real contraindications, but the drug is not suitable for use in electroshock therapy. G29505 was developed by Geigy Pharmaceuticals in Basel, Switzerland.

BILATERAL OVARIAN TUMOR FAILS TO STOP PREGNANCY

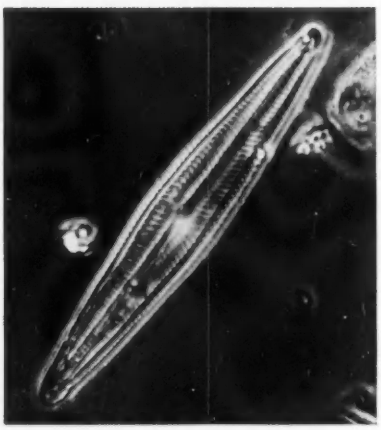
A case of bilateral ovarian carcinoma with pregnancy, unique in that the pregnancy was successfully carried to a normal delivery, has been described by Dr. R. R. Macdonald of the University of Glasgow, Scotland.

The patient, aged 26 and the mother of a two-year-old child, was first hospitalized with a large cystic swelling of the pelvis. A cystadenoma was found arising from the left ovary, which was removed. Although the tumor was found to be malignant, there were no signs of metastasis.

Some six months later, the woman became pregnant. After 12 weeks of pregnancy she was again hospitalized with a diagnosis of acute appendicitis or twisted ovarian cyst. Laparotomy disclosed a large ruptured cyst of the right ovary, which was also removed. This cyst, too, proved to be malignant.

Hormone therapy was given up to the 16th week of pregnancy, and 12 days before term the mother spontaneously delivered a healthy child weighing nearly nine pounds. Mother and child remain well.

FINDING OF DIATOMS IN ORGANS INDICATES DEATH BY DROWNING



DIATOM in brain, heart proves drowning.

The finding of diatoms, algae and other microscopic water life in the brain, heart and lung tissue of a cadaver permits positive diagnosis of death by drowning.

A technique developed in Europe to accomplish such diagnosis was described by three Belgian physicians at the Second International Meeting on Forensic Pathology and Medicine in New York. It is particularly useful a long time after death, when putrefaction has set in and hemodilution or concentration cannot be determined.

Fragments of the lungs, heart and brain are collected from a cadaver and chemically digested, according to Drs. Frederick Thomas, W. Van Hecke and J. Timperman of the University of Ghent. The residue is examined for diatoms—unicellular algae (about 30 microns) whose silica skeletons resist digestion. The finding of diatoms only in the lungs suggests death from other causes than drowning, such as a syncope in which only a few agonizing inspirations may have been taken.

If diatoms are found in the heart and brain, drowning is the cause of death. A large number of diatoms are usually found in the left heart, and a smaller amount in the brain.

LIGHT COAGULATION PROVES USE IN EARLY RETINAL TEARS

Time has borne out the early promise of the Zeiss light coagulator, say three Virginia ophthalmologists. It permits easy, non-traumatic treatment for early retinal detachment.

For the past two years, the team has used the coagulator in 32 cases of peripheral tears, with success in 30. One failure was too far gone in detachment; the other had an almost completely albinotic fundus, report Dr. Herbert Wiesinger and colleagues of the Medical College of Virginia.

Light coagulation certainly offers the "least traumatic approach" to prophylaxis in degenerative conditions carrying a threat of detachment. By carefully selecting patients (those with visual acuity of 20/200 or less), they have treated ten macular holes, with good results in eight.

But the team cautions against forgetting the "potential destructive energy" of the instrument. The degree of fundus pigmentation is most important: the darker the fundus, the greater its absorption of light, and the shorter the time exposure for burns.

SWISS PATIENTS ON THE MEND GIVE TUBERCULOSIS TO COWS

Milk pasteurization has successfully curbed the transmission of tuberculosis from cow to man, but in Switzerland today there is a new problem: Patients resting and convalescing in Davos are giving TB back to the cows.

While strolling in the hills of the mountain resort, patients may spit on the grass. Along comes the cow, eats the grass and, with it, tubercle bacilli. A similar mechanism is also suspected to have infected some Danish cows, it was reported at the Finsen Memorial Congress in Copenhagen.

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A LETTER FROM THE PUBLISHER

Dr. David Hosack's major claim to a place in medical history is the fact that he attended Alexander Hamilton after his fatal duel with Aaron Burr.

But we at MEDICAL WORLD NEWS have a more personal and sentimental reason for placing him among our special medical friends.

In 1801, Dr. Hosack leased from the City of New York 20 acres of its common lands for $4,807.36 and an annual "quit-rent" of sixteen bushels of wheat having a market value of $1.75 per bushel. On these lands Dr. Hosack established the Elgin Garden, one of the first medical research centers in Manhattan.

In those days, as in these, the medical profession was engaged in a constant struggle to find drugs to keep pace with growing knowledge about disease. Plants and shrubs were the major source of medicaments, and the gardens became a center of study. To it Dr. Hosack brought rare plants from all over the world, and the project became the passion of his life.

But—like many a modern doctor—he soon realized he could not indefinitely support his burgeoning research alone. In 1811, he sold the gardens to the state for $75,000, which would have been quite a profit if Dr. Hosack hadn't spent much more than that during his 10 years of botanical study. A little more than a century later, in 1930, the land on which the Elgin Garden stood became the site of Rockefeller Center.

DOCTOR HOSACK'S GARDEN

Just before this issue of MEDICAL WORLD NEWS went to press, we moved into new offices on the 16th floor of 30 Rockefeller Plaza West. On the flagstone path downstairs, along the Plaza, is a plaque which reads: "In memory of David Hosack, 1769-1835, botanist, physician, man of the world. On this site he developed the famous Elgin botanic garden . . . for the advancement of medical research. . . ."

We're rather pleased that our new working place provides a constant—if allegorical—reminder that upon the foundation of tireless efforts by lively, dedicated men of science the vast edifices of medical progress are built. One of the many ways in which MEDICAL WORLD NEWS hopes to recognize this basic fact is to publish reports on the work of men whose single contributions may lead to broad advances in healing. The link between Dr. Hosack and today's men of medicine is close.

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OUTLOOK

- **Pittsburgh team approaches synthesis of insulin**
- **Mail order prescription house under heavy fire**

A huge laboratory for research into the cause and prevention of deafness will be built at the University of Michigan Medical Center, Ann Arbor, with tentative plans for a five-story building, as a wing of the existing Kresge Medical Research Building. Funds for the new laboratory will come from a $1,750,000 gift from the Kresge Foundation.

When supporters of Forand-type legislation reintroduce their schemes during the next session of Congress, they'll probably make use of some statistics just released by the University of Michigan School of Business Administration. According to the U.M. survey: Michigan's elder citizens spend an average of $168 annually for medical expenses, while younger persons average $85 a year; over 70 per cent of the state's aged families have incomes of less than $3,000 annually, almost half have incomes of less than $2,000; one out of two persons over 65 has no health insurance at all, and those who do own policies generally have less coverage than those under 65.

Insulin may soon be synthesized. A University of Pittsburgh team has put together two fragments of the complex insulin molecule and is working on a third. If they succeed in tying together the molecule's 51 amino acid building blocks in the exact order found in the natural hormone, they will have achieved the first synthesis of a protein.

Senator Kefauver now plans to resume his drug hearings in mid-December. Best bet is that he will look into vitamins and the sulfas—and, possibly, some AMA officials. Meantime, the subcommittee staff is working on new drug-regulation bills which it hopes to have ready when Congress returns next January.

Government crackdown on mail order prescription firms continues. The Federal Trade Commission has accused the National Drug Plan, Inc. of Washington, D. C. of false and misleading advertising. Plan's promoters claim they do a volume business, will fill any prescription for select groups at savings of 25 to 50 per cent. Says the FTC: Not one of these claims is true. Hearings will be in November.

'IF I'M ELECTE RE

MEDICAL WORLD NEWS reporters traveling with Nixon and Kenn mpaign proposing—by two distinct approaches—to push for expan dical c

Sen. John F. Kennedy, as President, would include in his first State of the Union message to Congress an urgent plea for a Social Security supported program of "lifetime paid-up medical insurance" for the elderly.

"The Social Security approach is proved and successful," Kennedy says. "There is no new principle involved. It is consistent with human dignity and self-reliance. It emphasizes insurance as against charity.

"And it requires no special appropriations action by the Congress and the 50 states."

SENATOR JOHN F. KENNEDY

The Democratic candidate, making the old age health issue a key part of the campaign wherever he travels, specifies that the plan he will propose must be self-supporting and "pay-as-you-go."

It would provide benefits to persons under Social Security after they have reached 68, and would be financed by a one-half of one per cent boost in Social Security taxes. Some nine million persons would be covered for hospital care, nursing home benefits, home nursing service and outpatient diagnostic care.

Since it would be a supplement to the measure already enacted by Congress, Kennedy explains, assistance would therefore be provided not only for those under Social Security but also for many not covered by it.

There Is a National Responsibility

"I know there are those who say we want to turn everything over to the government," Kennedy comments. "I don't at all. I want the individuals to meet their responsibilities. And I want the states to meet their responsibilities. But I think there is also a national responsibility. The argument has been used against every piece of social legislation in the last 25 years. I don't believe in big government. But I believe in effective governmental action."

Sharply critical of the state-Federal approach advocated by Nixon, Kennedy charges that it would require financial action by each state government, unbalance the Federal budget and impose an income test on recipients of aid.

Specifically, he lists four factors which make his own plan both financially and socially more sound:

1) Major health costs can be met without a humiliating means test.

2) There can be action now, without waiting indefinitely for further action by Congress and the states.

3) There is freedom of choice in the selection of doctors, hospitals and nursing homes.

4) It does not depend upon the uncertainties of financing from general revenues.

'Meanest Form of Discrimination'

Sen. Kennedy is especially opposed to the means or income test in providing medical care insurance.

"Already 2¼ million of our citizens must rely on public assistance for their daily needs. We must not force another 14 million to rely on public assistance.

"To impose such a test is to ask a man to declare himself indigent and incapable of self-help before we lend him a hand. It comprises the meanest form of discrimination, because it hurts the weak without helping the strong."

His own program, he adds, would not place a deficit in the treasury—as the Nixon proposal would.

Seventeen million Americans over 65, he comments, are now trying to survive on a Social Security check of about $78 a month.

"This poverty and hardship turns into heartbreak and despair when illness threatens," he says. "No costs have increased more rapidly in the last decade than the cost of medical care. And these rising costs have their greatest impact on our elder citizens."

Unlike Nixon, Kennedy has not yet outlined his position on health legislation other than the aid-to-the-aged issue, although he expects to do so before the campaign ends.

His Democratic platform calls for Federal aid to build, expand and modernize medical schools, for scholarships and other assistance for students, and for action to "step up medical research on major diseases." ■

MEDICAL WORLD
NEWS
October 21, 1960 Vol. 1, No. 14

TE)RESIDENT...'

Kenn mpaign trains find that both candidates are expan dical care covering a greater number of aged

Vice President Richard M. Nixon, if elected, will urge the 87th Congress "as early as possible" to enact a health plan for the aged "which will be Federal-state in character and not compulsory."

"Our health program," Nixon states, "is one that provides for all people over 65 who want health insurance the opportunity to have it.

"It provides a choice of having either government insurance or private insurance, but it compels nobody to have insurance who does not want it."

Nixon's plan is to emphasize preventive medical care rather than hospitalization and to apply it to possibly 11 million individuals who are over 65 and have limited incomes.

He would also provide for home and office visits by physicians, partial payment for ambulatory, diagnostic, laboratory or x-ray services, home nurse service calls and limited hospitalization or nursing home care.

Those who feel they could afford to pay their own medical services would be allowed to subscribe to a liberal and comprehensive program of hospitalization and nursing home benefits backed by Government funds.

Estimated Cost: $600 Million

In effect, Nixon's approach would let older people take full advantage of state-administered health and hospitalization programs, or have the Government pay a large share of the premium on their private policies.

It is estimated that such a program might cost Federal and state governments about $600 million each annually.

Nixon, who has repeatedly assailed the Social Security approach advocated by Sen. Kennedy, believes the health care issue, more than any other campaign topic, clearly illustrates the sharp ideological contrast between his approach to social and economic reform and that of his opponent.

"We both want to help the old people," he says. "We want to see that they do have adequate medical care. The question is the means.

"I think the means that I advocate will reach that goal better than the means he advocates."

The Kennedy philosophy of aid to the aged, he notes, "would require everybody who had Social Security to take Government health insurance whether he wanted it or not. And it would not cover several million people who are not covered by Social Security at all."

The Kennedy-supported legislation which failed to pass the last Congress, Nixon believes, was killed because it was "too extreme" and therefore "the people were against it."

Program to Combat Disease

"I am convinced that the alternate proposals I have, because they are not extreme, because they will accomplish the ends without too great cost in dollars or freedom, could get through the next Congress."

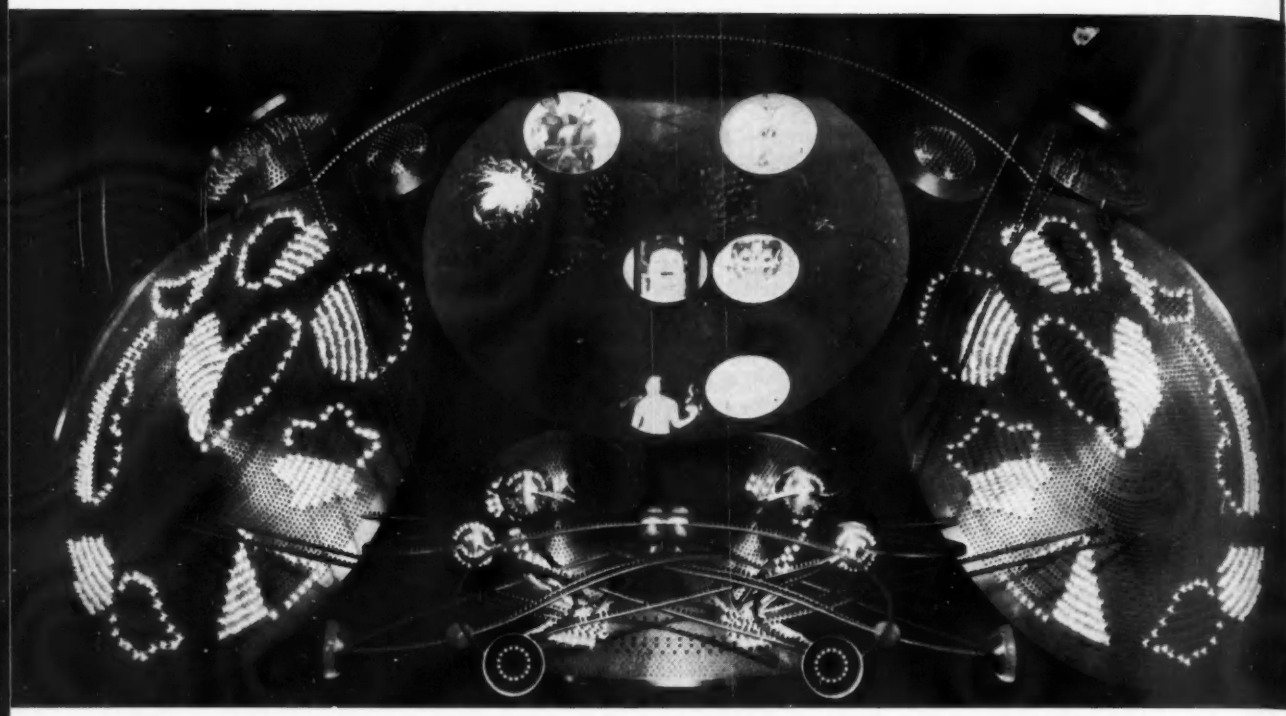
As for the bill which did pass Congress in August (MWN, Sept. 9), Nixon says: "My view is that the bill was certainly a great improvement over what we have. It was a step in the right direction. But I believe that this bill is a most inadequate answer to the whole question, and in my opinion the next Congress, as early as possible, should try to consider again a program which will deal with the problem."

The Republican nominee also expects to push for financial aid to about one-half of the nation's 25,000 medical students, and for increases in Federal support of health-research facilities, medical research grants and fellowships.

Under what he calls a "Program to Combat Disease for the Nineteen Sixties," Nixon would have the Government provide fellowships on the basis of competitive examinations and individual need. Part of the money would go directly to the medical school; the rest would be a loan to the student.

Nixon estimates that if present Federal participation could be doubled and if matching funds could be obtained at a similar level, the nation's medical and research establishments would be expanded by nearly $3 billion by the end of the 1960s. ■

VICE PRESIDENT RICHARD M. NIXON



DISKS hovering over "eyes" and "ears" of model flash light patterns representing brain's complicated response to stimuli.

A BRAIN THAT SEES AND HEARS

To dramatize the functioning of the human mind, designer Will Burtin and Upjohn have devised a 12 by 24 foot 'working' model, now being seen in three Chicago medical meetings

The complex mechanical piece of modern art pictured above is "listening" to an opera singer. It has decided that her voice is better than others it has heard, and is just about to order applause.

In other words, it is demonstrating what goes on when the human brain becomes conscious of a sensation, evaluates it, compares it with stored memories, and finally sends out responsive signals to nerves and muscles.

This original approach to portraying the phenomena of thinking is the creation of designer Will Burtin for The Upjohn Company. Physicians are seeing "The Brain" all this month at three Chicago meetings: American Academy of Ophthalmology, American Academy of Pediatrics and Congress of Neurological Surgeons.

Burtin, who created the unique model of "The Cell" for Upjohn two years ago, started with the idea that it is possible to portray brain *function* without being imprisoned by brain *anatomy*. And to the usual dimensions of space and color he added time. This approach was carefully checked, as the project developed, by Dr. A. G. Macleod, special project manager for The Upjohn Company.

Thus, his model is composed of abstract forms representing the activity of parts of the brain. The visual, auditory and memory-association cortices are represented by huge disks carrying circles of electric lights.

At the physical center of the model is a dome representing its "ideological center," a new and important concept which follows a centuries-long debate on the geography of brain function.

The dome abstractly represents "the centrencephalic system," a term suggested by Canada's Dr. Wilder Penfield who has long been concerned with the possibility of a "central switchboard" which coordinates activities in the brain's hemispheres.

For 20 years, Dr. Penfield and the Montreal Neurological Institute have been studying this question in "men and women, conscious and unconscious, with lesions and local epileptic discharges, patients seen in the consulting room, the operating room and also, alas, the autopsy room," as Dr. Penfield puts it. Many of the ideas for the Upjohn brain evolved from this work.

On the basis of his own experience and evidence from other investigators, Dr. Penfield suggested a few years ago that the highest level of brain-function integration is "that central system within the brain stem" consisting of the diencephalon, mesencephalon and probably the rhombencephalon. And, recently, he concluded that all the evidence "leaves no other hypothesis tenable."

In Burtin's model, vague patterns of light, indicating random thoughts, play across the large disks on each side (cortical and association areas). Thoughts which become conscious are represented by precise light patterns and by pictures on what Burtin calls "the consciousness screen."

Signs of remembering and of judg-

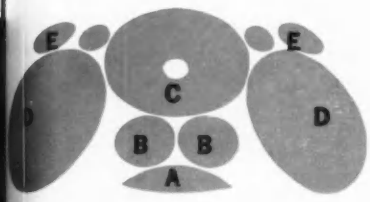


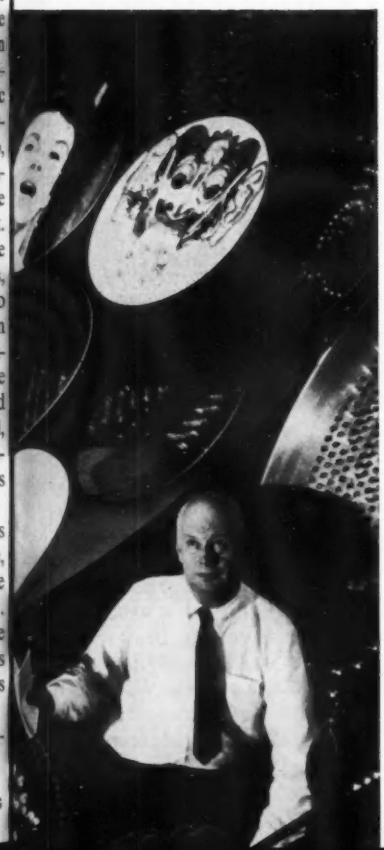
DIAGRAM shows centrencephalic system (A); visual cortices (B); consciousness screen (C); memory-association cortices (D); auditory cortices (E) of brain model.

ing may appear; finally the centrencephalic system—the dome just behind the model's "eyes" (see drawing)—makes a judgment and sends out nerve messages signaling appropriate action.

Brain-builder Burtin, no neurologist himself, had expert advice from such authorities as Dr. H. H. Jasper of the Montreal Institute, Dr. H. W. Magoun of the University of California, Los Angeles and Orval T. Ellsworth of the UCLA Medical School's physiology department. With their help he is now working out ways to demonstrate even more complex problems.

The model is constructed in such a manner that it is possible to demonstrate even abnormal brain function by altering some of the 45,000 electric lights and 40 miles of wiring. ■

DESIGNER BURTIN examines his model.



A CLEVER VILLAIN MAY YET BE FOILED

Attempts to break the disguise of the elusive streptococcus are finally producing clues to designing a practical vaccine

The streptococcus bacterium, as Sir Winston Churchill once described the Soviet Union, is "a riddle wrapped in a mystery inside an enigma." More specifically, it is protoplasm inside a ball of polysaccharide inside a shell of protein surrounded by a halo of hyaluronic acid. No vaccine has been made to penetrate the strep's defenses.

In fact, findings of research aimed toward developing a vaccine have always been uniformly discouraging. But now a man who has spent ten years in energetic efforts to unravel the riddle says that a vaccine has become at least theoretically possible. Dr. Gene H. Stollerman, associate professor of medicine and director of the Samuel J. Sackett Research Laboratories at Northwestern University Medical School, Chicago, believes the opening wedge may be embodied in his findings on the role of an enzyme in the strep immunologic reaction.

Dr. Stollerman's interest in the strep problem began during his student days at Columbia University, working under Dr. David Seegal. Since then he has helped establish variations in rate of rheumatic fever following streptococcal infections, and has shown that sulfonamides and penicillin can prevent strep epidemics—and their recurrence.

According to Dr. Stollerman, it is generally known that group A is the most pathogenic to man of all the five groups of strep. Its 50 types are characterized by the unique cell-wall substance, M-protein. The logical way to immunize would be to stimulate antibodies against this substance. But there are obstacles to this classical approach.

First, antibodies alone can't kill strep as they do higher bacteria and viruses, although they do confer some immunity on convalescents from strep infection.

"The streptococcus is a very clever organism," says Dr. Stollerman. "It hides behind a veil of hyaluronic acid and M-protein. The more of these materials it has, the more virulent it is. Since hyaluronic acid is present in all tissues, the bacterium becomes 'invisible' to the phagocytes. Antibody can penetrate this acid 'disguise' and neutralize the M-protein in the layer below, but it can make the strep recognizable to the phagocytes only if certain enzymes are present in the patient's blood."

Peculiar Inability to Fight

Second, not all patients who have had strep infections develop the same degree of subsequent defense. It is well established that rheumatic destruction may occur following asymptomatic subclinical recurrent infections with virulent strep. Dr. Stollerman believes this may be due to a peculiar inability of the host to conquer the infection promptly.

He found the first clue to this inability two years ago while testing the phagocytosis of strep in fresh blood taken from 30 patients just recovered from strep infections. The blood of two patients failed to destroy the bacteria, despite a high antibody titer specific to the "challenge" type of strep. Experiments narrowed down the abnormality to the plasma. Since then, in tests of blood from over 100 patients, he has shown that the lack of bactericidal activity is due to lack of an enzyme in the plasma. This enzyme, he believes, enhances phagocytosis of strep when antigen combines with antibody. But when it is absent, serious complications such as rheumatic fever and nephritis can occur, even after only a mild strep throat.

The Trick Is Making Antibodies

While he hasn't isolated or identified this enzyme, the 39-year-old Chicago researcher is certain of its existence, suspects its presence is genetically determined and is confident of its "broad implications." He also believes immunologists may find that such enzymes are involved in many immunologic reactions related to the body's defense against infection.

CONTINUED

The third obstacle is lack of cross-immunity. Antibodies to M-protein are specific to each of the 50 types. Thus, a useful vaccine would have to include anti-M-protein to all types affecting man.

"Certainly a polyvalent vaccine can be made," he maintains. "But the trick is to produce antibodies." Here, there are two problems. Attenuated live strep is not the answer because virulence is proportional to M-protein. Making the streptococcus "safe" would reduce subsequent antibody production practically to zero. And, on the other hand, a dose of killed strep large enough to produce significant antibody response would trigger severe local reaction and systemic illness.

"This is the price exacted by the ubiquitousness of streptococci, which have probably caused sore throats during everyone's lifetime. Because of sensitization to other strep antigens in previous infections, dead streptococcus injections have to be exceedingly small, in the range .01 mg to 1 mg," he explained. Dr. Stollerman is sensitive to only .001 mg.

The most promising approach to a vaccine was started by Dr. Sam S. Barkulis at the University of Illinois in Chicago. Dr. Barkulis (now at Ciba Laboratories, Summit, N. J.,) made strep-wall suspensions and injected them into rabbits in 1954. Two years later, with Dr. Charles Wolfe of Presbyterian Hospital, N. Y., he tried injections in 40 people. But animal and agglutination tests showed few antibodies and local skin reactions were frequent. Dr. Barkulis and Dr. James Hayashi (who has carried on the strep work at Illinois) then devised a method to extract only the M-protein from the cell wall.

Long Chains of Bacteria

This approach became more meaningful with the development of an exquisite test devised by Drs. Stollerman and Richard Ekstedt. It is based on the fact that when specific antibody is present, streptococci grow in long chains. By means of this test, less than a tenth of a microgram of antibody can be detected. In the test, M-protein extract is added under the microscope to a serum suspension of strep to draw off these antibodies. Freed of the antibodies, the bacteria—probably by the action of a reactivated enzyme—then regroup into clusters. The amount of M-protein added is a measure of the amount of antibody present.

LONG CHAIN of strep indicates antibody. Short form (insert) has none.

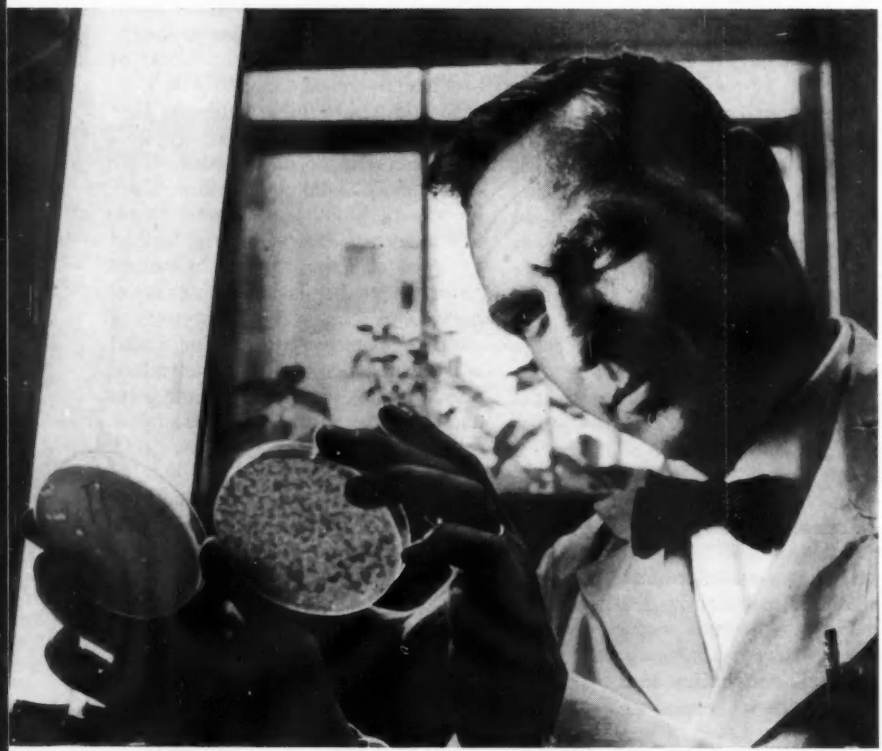
Using the long-chain test, Dr. Stollerman, with Drs. Alan C. Siegel and Eloise Johnson of Children's Memorial Hospital, Northwestern University, have followed 75 strep-convalescent children for three years and found small amounts of antibody persisting in 50 per cent.

Little Antigen, Much Antibody

Dr. Elizabeth Potter, another of the Northwestern researchers, like Dr. Barkulis made a strep-12 (the well-known pathogenic strain) cell-wall suspension and injected it in rabbits that had recently recovered from strep-12 infections. Happily, tiny amounts of the antigen elicited large antibody responses.

Next, Dr. Potter injected the cell-wall protein in 12 children who had recovered from strep-12 and whose antibody level had altogether disappeared. The antigen was given in three 50 to 100 μmg doses a week apart to prevent reactions. Result: Antibody titers in all 12 returned to their original levels. She is now testing the antibody response in other strep types. If these are successful, more extensive tests will follow.

On these current tests, then, rests much of the hope for a vaccine of the future. "It is not an insoluble problem," said Dr. Stollerman. "If we can boost immunity and recall antibodies, we should be able, theoretically, to produce primary immunization." ■



STREP RESEARCHER Stollerman faces at least three major obstacles in his search for a vaccine against the elusive bacterium. Theoretically, he says, all can be overcome.

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Aldactone inactivates a crucial mechanism producing and maintaining edema — the effect of excessive activity of the potent salt-retaining hormone, aldosterone. This corrective action produces a satisfactory relief of edema even in conditions wholly or partially refractory to other drugs.

Also, Aldactone acts in a different manner and at a different site in the renal tubules than other drugs. This difference in action permits a true synergism with mercurial and thiazide diuretics, supplementing and potentiating their beneficial effects.

Further, Aldactone minimizes the electrolyte upheaval often caused by mercurial and thiazide compounds.

The accompanying graph shows a dramatic but by no means unusual instance of the effect of Aldactone in refractory edema.

The usual adult dosage of Aldactone, brand of spironolactone, is 400 mg. daily. Complete dosage information is contained in Searle New Product Brochure No. 52.

SUPPLIED: Aldactone is supplied as compression-coated yellow tablets of 100 mg.

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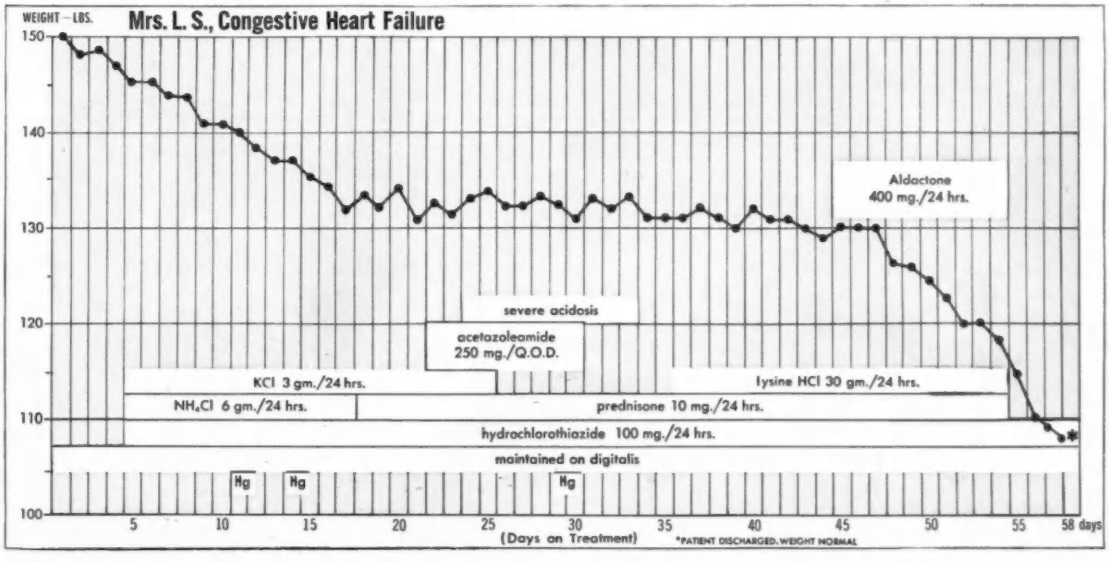
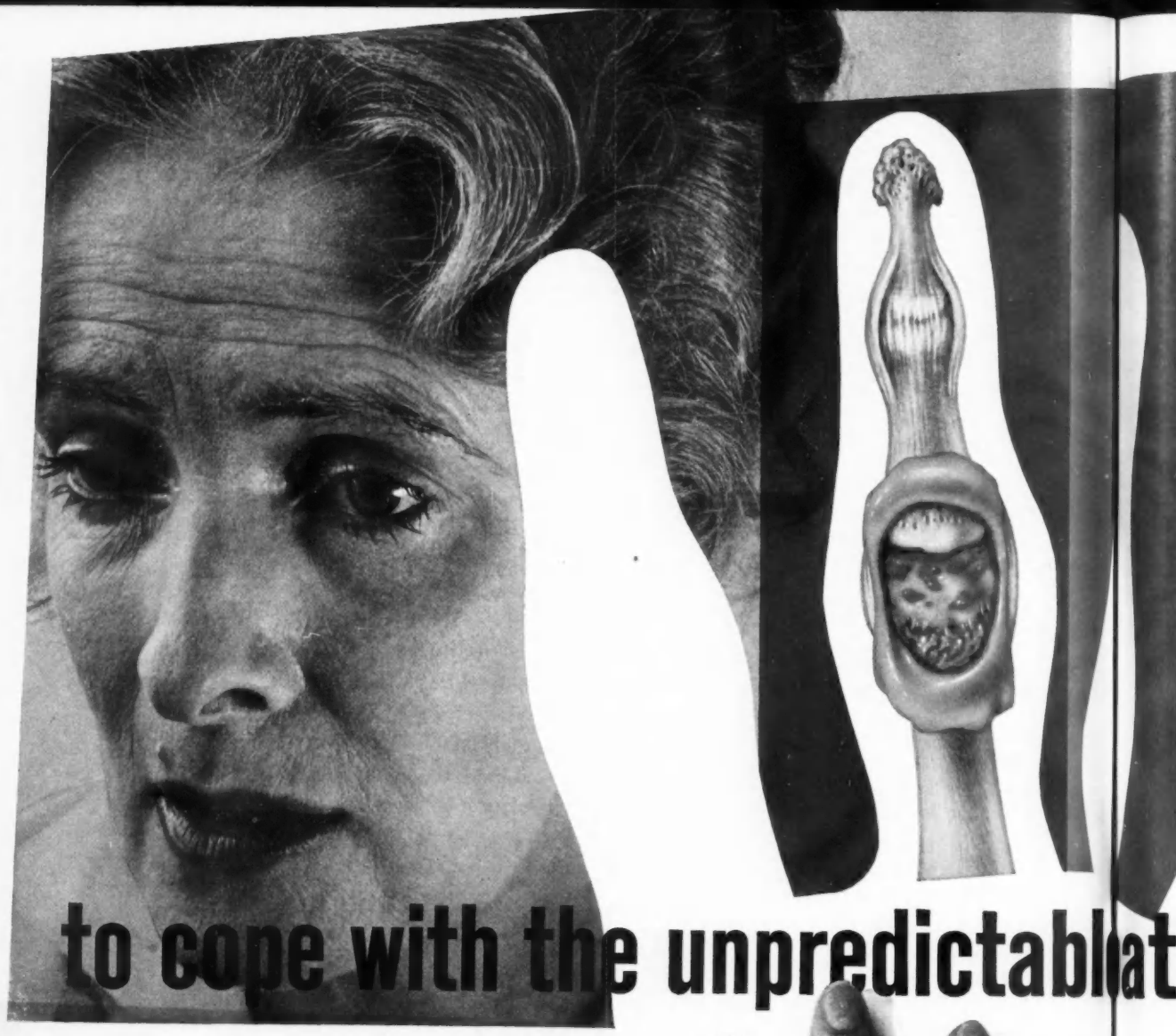
Research in the Service of Medicine.




to cope with the unpredictabl

RELIEVES THE SYMPTOMS OF RHEUMATOID ARTHRITIS

the pain, rigidity, swelling, morning stiffness, and limitation of motion

With DECADRON, pain, rigidity, and swelling usually fade rapidly, within 24 hours.[1] Morning stiffness often disappears completely.[2] Increased joint mobility and eventual clinical control frequently follow improvement of articular symptoms, even in patients poorly controlled by other corticosteroids.[2-6]

ATTACKS THE INFLAMMATORY PROCESS OF RHEUMATOID ARTHRITIS

the rapid sedimentation rate, the secondary anemia, the fever, elevated plasma fibrinogen and globulin, and decreased plasma albumin

Treatment with DECADRON, by reducing or eliminating inflammation, may also be expected to help eliminate fever, reduce the sedimentation rate, correct abnormal plasma-protein patterns, raise hemoglobin values and red blood cell counts.[3,7-10]

IMPROVES THE GENERAL STATE AND SENSE OF HEALTH

The patient is sometimes markedly undernourished and emaciated

(Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine, ed. 10, Philadelphia, W. B. Saunders Company, 1959, p. 1366.)

thin and asthenic, and very often profoundly depressed.

(Ragan, C., in Comroe's Arthritis and Allied Conditions, ed. 5, Philadelphia, Lea & Febiger, 1954, p. 151.)

The "tonic effect"[11] of dexamethasone often promotes a sense of well-being, leading to improvement in the general state of health, relief of asthenia and depression, restoration of normal nutrition and enjoyment of food.[1,3,11-14]

blattern of rheumatoid arthritis

REFERENCES:

1. Spies, T. D., et al.: South. M. J. *51*:1066, 1958. 2. Bunim, J. J., et al.: Arthritis & Rheumatism *1*:313, 1958. 3. Galli, T., and Mannetti, C.: Minerva med. *50*:949, 1959. And Abstr. in J.A.M.A. *170*:2254, 1959. 4. Case Reports on File, Merck Sharp & Dohme. 5. Boland, E. W.: Ann. Rheumat. Dis. *17*:376, 1958. 6. Boland, E. W.: California Med. *88*:417, 1958. 7. Cislaghi, F., and Quarti, M.: Minerva med. *50*:959, 1959. 8. Foreign Letters: J.A.M.A. *171*:236, 1959. 9. Agostini, A.: Minerva med. *50*:926, 1959. 10. Clinical Data, Merck Sharp & Dohme. 11. Rudolph, J. A., and Rudolph, B. M.: Ann. Allergy *17*:710, 1959. 12. Cerutti, P.: Minerva med. *50*:917, 1959. 13. Cagli, V., et al.: Minerva med. *50*:941, 1959. 14. Chervinsky, P.: Ann. Allergy *17*:714, 1959.

Initial dosage depends on the type and severity of the condition. Generally between 1.5 mg. and 3 mg. per day is adequate; this should be reduced to maintenance level when control has been established. DECADRON is supplied as 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets and as Injection DECADRON Phosphate in 5-cc. vials, each cc. containing 4 mg. of dexamethasone 21-phosphate as the disodium salt. Additional information available to physicians on request.

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IN CASE OF SEVERE BURNS

Control of post-burn shock and septicemia is not enough, warn several experts. Convalescent serum may fill the therapy gap

Spurred by new clinical studies in Russia and experimental work in the U. S., leading authorities on burns have begun taking a closer look at the role of burn toxins in post-shock mortality and at the use of convalescent serum to combat them.

They are also hotly debating the relative value of saline and colloidal preparations in treating burn shock in light of new data from Peru.

Impetus for renewed interest in these tough clinical problems came from reports to the First International Congress on Research in Burns in Bethesda, Md. Chief interest centered on the theory that burns release toxins which poison the burned tissue and then spill over into the blood stream to produce systemic reactions. Thus, even when septicemia and shock are controlled, something more is needed to reduce mortality.

Several research teams—from Russia, Czechoslovakia, Belgium, Chicago and Washington — provided strong support for the toxin theory. And the Russians, going farther than the others, said they have proved the theory by using convalescent serum with "striking" effect in the treatment of more than 200 burn patients.

Dr. Nicolai A. Feodorov of the Central Institute of Hematology and Blood Transfusion in Moscow was rather indefinite about details of the clinical trials and the degree of control maintained. But he said the serum, obtained from burn victims, was highly effective. It had saved lives in a number of cases in which burns covered 60 to 70 per cent of the body surface.

In general, he reported, Soviet surgeons give about 250 cc of convalescent serum every day for at least five days following severe burns. It is used in conjunction with other conventional saline and antisepsis therapy.

Every Patient a Source

The serum is readily available because, as Dr. Feodorov says, "We don't let one burn patient go past without giving blood."

Similar clinical results were reported by Dr. Mario Dorbrkovsky of Czechoslovakia (12 patients) and Dr. Sol R. Rosenthal of the University of Illinois (six patients). Dr. Rosenthal's patients were victims of the 1958 Our Lady of the Angels school fire in Chicago.

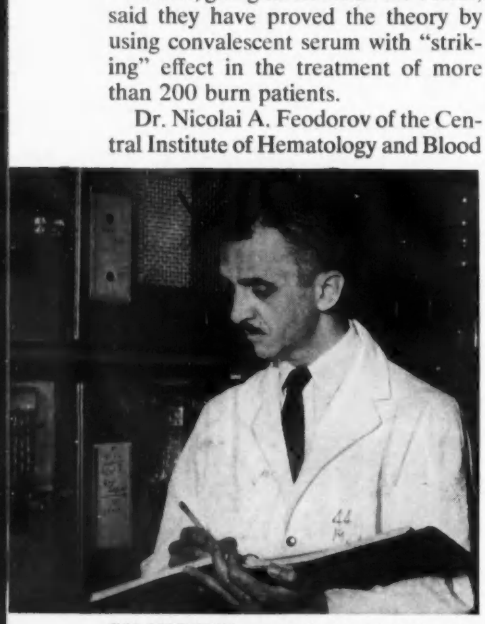
He reported that sudden clinical improvement followed use of the convalescent serum, but the trial was too limited and insufficiently controlled to be very persuasive to Dr. Rosenthal's fellow scientists. They were generally impressed, however, by a carefully controlled and executed experimental study done by Dr. Ole J. Malm of the Walter Reed Army Institute of Research.

Dr. Malm, working with rats, showed that convalescent serum provided a "constant, although not dramatic, protective effect" in experimental 60-65 per cent burns. At four weeks, for example, the mortality in the treated group was 48.3 per cent while that in the controls was 71 per cent.

Another controversy arose over replacement therapy. This centered on a new report from the NIH burn project in Peru indicating that saline solutions significantly reduce shock mortality. In 103 saline-treated burn patients, shock mortality was a surprisingly low two per cent. But in a comparable group of 74 patients treated with plasma plus glucose and water, the 60-hour mortality was 12 per cent.

In addition, when saline was substituted for the glucose in plasma therapy, shock mortality was cut from 12 per cent to a mere five per cent.

Dr. Francis D. Moore of Harvard, a leading exponent of plasma therapy, attacked the Peruvian report for what he considered a bias toward saline and against plasma. In particular, he charged that the plasma doses used



DR. MARKLEY urges plasma plus glucose.

DIGITALIS AIDS CARDIAC RECOVERY FROM BURN SHOCK

New experimental evidence indicates that digitalis may be effective in preventing the sharp depression in cardiac output seen in severe burn-shock cases.

Dr. Harry A. Fozzard of the Washington University School of Medicine, St. Louis, reports that studies in dogs tend to rule out the long-held theory that cardiac depression in burn shock stems wholly from the rush of plasma to the burn area.

Instead, Dr. Fozzard's studies strongly suggest that myocardial failure plays an important role. For one thing, the cardiac output drop precedes the fall in blood volume.

The dogs were given full-thickness burns, 30 per cent of body surface. Blood volume dropped slowly to 75 per cent of normal in four hours, but cardiac output dropped some 50 per cent in just one hour.

Intravenous digitalis and dextran, given immediately after a burn, prevented any drop in either output o volume and, at one hour postburn they actually raised output and volum to higher-than-control levels.

"If digitalis is given to burned patients in addition to adequate fluids," Dr. Fozzard concludes, "it seems likely that cardiac output could be maintained and flow to various areas such as the liver, the brain and the kidneys might be more adequate. In addition, pulmonary congestion and pulmonary edema may become less likely. Since pulmonary congestion predisposes to pulmonary infections, this treatment might reduce the incidence or severity of these infections."

(three per cent of body weight) were insufficient to achieve good results.

Dr. Kehl Markley III of the National Institute of Arthritis and Metabolic Diseases, who presented the Peruvian results, countered that his report didn't underestimate plasma. It simply showed that when saline rather than glucose is used with plasma, the results are superior.

In a group of 24 Peruvian patients given saline solution alone (12-25 per cent of body weight), the 60-hour mortality was eight per cent. In another 20 patients, given plasma plus saline, the mortality was about the same, five per cent. Late mortality in the saline-alone and saline-plasma groups was also roughly the same.

Still a Controversy

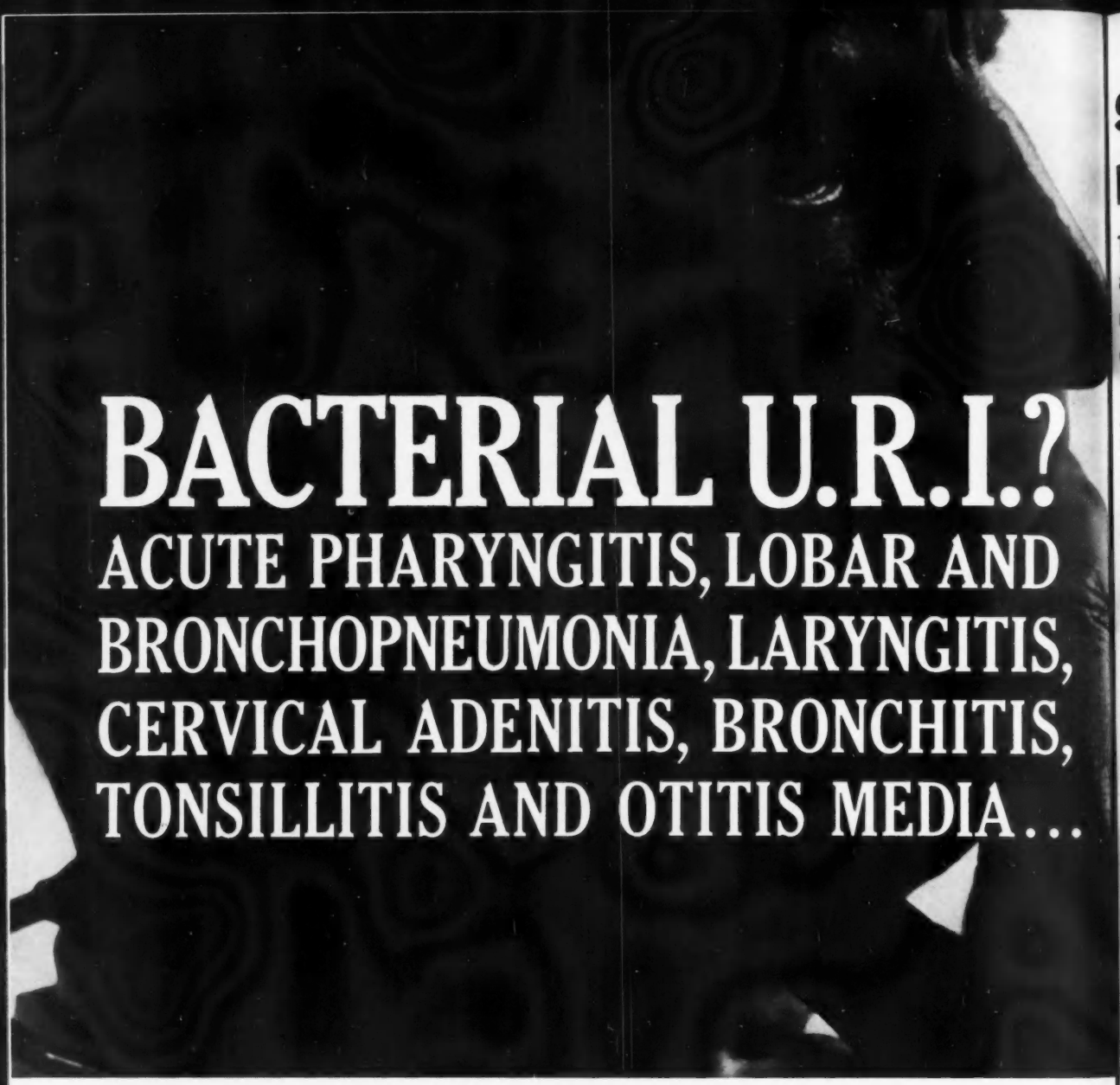
This seemed to indicate that the plasma, in the amount used in adults at least, was not significantly better than saline alone. However, in another earlier study, a saline-plasma combination did appear to have an important effect on mortality in certain children under three years of age with less than 20 per cent burns.

The Peruvian study strongly reinforced the argument of NIH researchers and others that saline is vitally important in shock therapy. But this remained a matter of some controversy.

In the matter of septicemia, another major burn problem, a Congress report cited the value of gamma globulin in combating the invariably fatal pseudomonas infections which have become the most important cause of septicemic deaths.

Dr. Nicholas A. Kefalides from the University of Illinois reported that the study group consisted of 237 victims of burns covering more than ten per cent of the body. All but 29 were between four months and 11 years of age. The children were given pooled gamma globulin in intramuscular injections of 1 cc/kg of body weight on admission and again on the third and sixth days after burn. The dose was somewhat larger in adults with burns of more than 25 per cent of body surface.

Among the treated patients, septicemic deaths were 22.4 per cent while mortality among 121 controls was 40.5 per cent. Dr. Kefalides concluded that "in young burned children and in those with a surface area burn of less than 20 per cent, gamma globulin prophylaxis may be life-saving." ■



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1. Morigi, E. M. E.; Wheatley, W. B., and Albright, H.: Antibiotics Annual 1959-60, N.Y., Antibiotic, Inc., 1960, 131. **ALPEN™, potassium phenethicillin**

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STEEL TALKS MAY SET MEDICAL PATTERN

The United Steelworkers union asks AMA, AHA to a series of meetings to consider ways of enlarging medical benefits

A significant pattern in medicine's future relations with millions of union workers is expected to emerge from a series of fall conferences called by the United Steelworkers of America, third largest U. S. union. Evidence of the key importance of the conferences — and their possible effect on American medicine—is the fact that the American Medical Association, the American Hospital Association and steel industry heads have agreed to attend.

The purpose of the meetings is to explore ways of increasing the effectiveness of medical service to union members. The union, sharply critical of present methods, voices its objections in the 108-page Falk report (after chief health services consultant Dr. I. S. Falk) which compares its own program (chiefly Blue Cross and Blue Shield plans) with the benefits offered by the Kaiser Foundation Health Plan of California and the United Mine Workers' own medical plan.

In many respects, the report is the most exhaustive critique of current medical practices yet drafted by any labor group. Here are the union's chief complaints:

High Fees, Low Benefits

▸ Doctors' fees are too high. "Doctors' charges average nearly 20 per cent higher than Blue Shield allowances — and even more under commercial carriers." The report points out, however, that in Pennsylvania "most doctors have agreed to accept Blue Shield fees as full payment for patients below agreed income levels—$4,000 for an individual, $6,000 for an entire family."

▸ Excessive usage of hospitals. Unnecessary hospitalization, according to the study, "is stimulated by the insurance which guarantees that the charges will be paid." Under the Blue Cross plans, steelworkers underwent more than twice as many hospital surgical operations as workers covered by the Kaiser plan on the Pacific Coast. Steelworkers had 1,032 days of hospitalization for every 1,000 insured, as against 570 days for those under the Kaiser plan (see table).

▸ Much too limited range of insurance benefits. The report declares that most steelworkers have far too little help in meeting the costs of maternity, surgical and ancillary services. Most existing programs are not health insurance but "sickness insurance," the study points out, and it adds that the programs are operated largely for hospitals and physicians. "It's hard to see how we can get what we want under the present pattern of purchased insurance benefits."

Most Ambitious Venture

The report gives this sharp warning: "Unless the medical profession changes many of its basic policy positions and practices, with respect to fees, and unless it accepts greater responsibility for holding down costs and improving the comprehensiveness of benefits, we have no alternative except to explore the possibilities for achieving our goals through newer patterns."

Dwelling on the virtues of "comprehensive group practice prepayment plans," the report suggests a plan that could become the most ambitious venture into union-sponsored medicine yet undertaken in the U. S.

"In some areas it may be possible to find existing group-practice clinics which can be encouraged to develop prepayment arrangements. In other areas, existing hospitals may be encouraged to become comprehensive practice plans by employing the necessary staff. Finally, it may be necessary for steel companies and the union to develop their own plan in each of a number of places."

But the union has no guarantee that industry will go along with its plans. While U. S. Steel has carefully examined the Kaiser plan, industry as a whole hasn't said a word yet about investing pension money in hospitals or establishing a series of pilot projects in closed panel medicine. And industry's cooperation is essential, because it is industry and not the union that administers the $1,600,000,000 pension and welfare reserves.

What if management eventually turns down the union's scheme? The union report has considered that possibility. It says: "If we can't get the full cooperation of the employers, then we must be prepared to go it alone."

Whether or not the steel towns of Pittsburgh, Wheeling, Youngstown and Gary may one day have a string of union-built, union-managed hospitals and clinics, using closed panels of union-paid MDs, may be answered to a forceful degree by the result of the upcoming conferences. ■

UNION COMPARISON OF INSURANCE PLANS

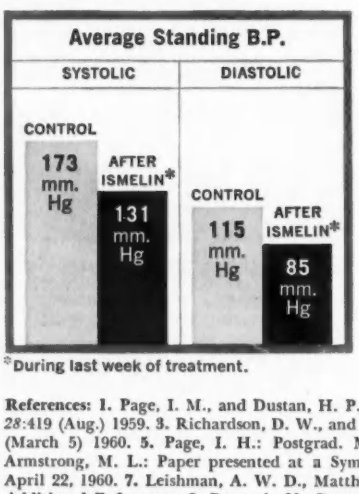
CASES, DAYS, CLAIMS	Usage per 1,000 persons: KAISER PLAN	BLUE PLANS	COMMERCIAL CONTRACTS
HOSPITAL IN-PATIENT SERVICES			
Hospital in-patient cases	90	135	150
Total days in hospital	570	1,032	1,167
Days per individual case	6.3	7.6	7.8
PHYSICIAN SERVICES			
Obstetrical cases or claims	19	25	25
Non-OB in-patient surgical claims	33	69	63
Non-OB office, home, out-patient surgical claims	63	82	39

ISMELIN® *reduces high blood pressure to nea*

According to reports from more than 100 clinical investigators, Ismelin—in moderate to severe hypertension—reduces blood pressure levels to normal or near-normal in a remarkably high percentage of patients. Following are summaries of typical findings:

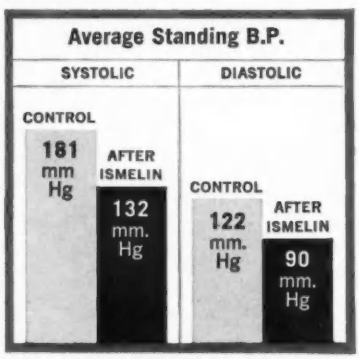
17 of 18 patients (94.4%) treated with Ismelin become normotensive in the erect position. Page and Dustan[1] gave Ismelin orally, alone or in combination with other antihypertensive drugs, to 18 patients daily for 2 to 10 weeks.

RESULTS: All 18 patients had reductions in standing blood pressure; 16 had moderate reductions in supine blood pressure as well. In 17 of the 18 cases, blood pressure levels became normal or near-normal in the erect position.



*During last week of treatment.

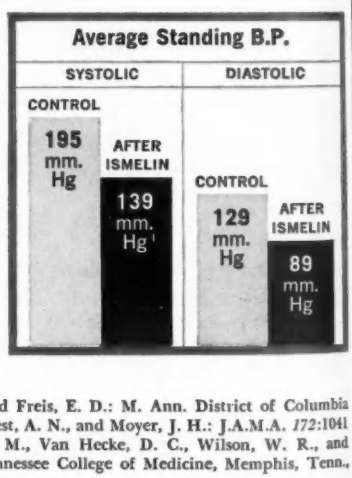
In 14 of 15 patients (93.3%) on Ismelin, blood pressure reduced to normal or near-normal levels in the standing position. Ismelin was administered orally by Frohlich and Freis[2] for 4 to 9 weeks to 15 male patients selected from the hypertensive clinic.



RESULTS: Ismelin evoked a potent antihypertensive response in the erect position: the blood pressure of 14 of the 15 patients dropped to normotensive or near-normotensive levels.

"The response [to Ismelin] was characterized by a potent, orthostatic, antihypertensive effect similar to that seen with the ganglionic blocking drugs but without the side-effects of parasympathetic blockade."[2]

In 15 of 18 subjects (83.3%), guanethidine [Ismelin] reduced high blood pressure to near-normotensive levels. Guanethidine [Ismelin] was administered orally by Richardson and Wyso[3] to 18 male hospitalized patients with hypertension.

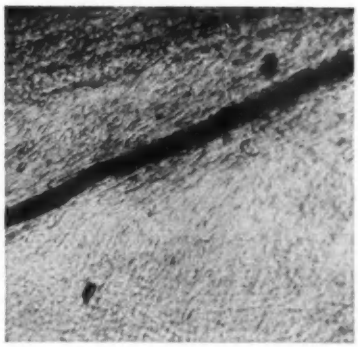


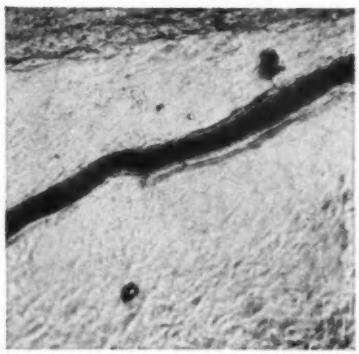
References: 1. Page, I. M., and Dustan, H. P.: J.A.M.A. *170*:1265 (July 11) 1959. 2. Frohlich, E. D., and Freis, E. D.: M. Ann. District of Columbia *28*:419 (Aug.) 1959. 3. Richardson, D. W., and Wyso, E. M.: Virginia M. Month. *86*:377 (July) 1959. 4. Brest, A. N., and Moyer, J. H.: J.A.M.A. *172*:1041 (March 5) 1960. 5. Page, I. H.: Postgrad. Med. *27*:448 (April) 1960. 6. Kirkendall, W. M., Fitz, A. M., Van Hecke, D. C., Wilson, W. R., and Armstrong, M. L.: Paper presented at a Symposium on Guanethidine (Ismelin), The University of Tennessee College of Medicine, Memphis, Tenn., April 22, 1960. 7. Leishman, A. W. D., Matthews, H. L., and Smith, A. J.: Lancet *2*:1044 (Dec. 12) 1959.
Additional References: 8. Brest, A. N., Duarte, C., Glantz, G., and Moyer, J. H.: Current Therap. Res. *2*:17 (Jan.) 1960. 9. Maxwell, R. A., Mull, R. P., and Plummer, A. J.: Experientia *15*:267 (July 15) 1959. 10. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. I.: J. Pharmacol. & Exper. Therap. *128*:22 (Jan.) 1960. 11. Maxwell, R. A., Plummer, A. J., Schneider, F., Povalski, H., and Daniel, A. I.: Pharmacologist *1*:68 (Fall) 1959. 12. Sheppard, H., and Zimmerman, J.: Pharmacologist *1*:69 (Fall) 1959.

e to near-normal levels in 80 to 90% of cases[1-3]

RESULTS: "All patients showed definite reduction in blood pressure coincident with administration of [Ismelin]. In most of the subjects [15] standing blood pressure could be maintained near normal levels."[3]

"Side-effects encountered . . . have indeed been minimal . . ."[4] Brest and Moyer[4] state: "Side-effects [of Ismelin] encountered to date have indeed been minimal, with mild diarrhea as the only significant complaint even when large daily doses (450 mg.) of the drug are administered. No evidence of toxic action of the drug has been encountered thus far." Page[5] observes: "...Guanethidine [Ismelin] has the advantage [over ganglionic blockers] in that it is much easier to handle and does not produce nearly as much dose sensitivity. Too much of a ganglion-blocking agent will really 'clobber' the patient; with Guanethidine, there is much more leeway." Kirkendall and co-workers[6] report: "Guanethidine has remarkably few side effects. The absence of symptoms of parasympathetic blockade makes its use better tolerated by most patients than conventional ganglion blocking therapy." Leishman and associates[7] conclude: "The capacity of guanethidine to reduce the blood-pressure of hypertensive patients without symptoms of parasympathetic blockade is consistent with a mechanism of selective sympathetic-nerve inhibition..."





Ismelin
Increases Arteriole Caliber

Ismelin represents a new principle in the treatment of high blood pressure: It acts at the nerve-arteriole junction where it apparently opposes the release and/or distribution of the pressor substance, norepinephrine. Ismelin is not a ganglionic blocker.

◀ BEFORE ISMELIN: Photo shows normal arteriole in rat mesentery. (100x)

◀ AFTER ISMELIN: Ismelin has blocked the constricting influence of norepinephrine. Arteriolar caliber has significantly increased, while an adjacent capillary has filled. (100x)

Because it acts at the nerve-arteriole junction—with no demonstrable central or ganglion blocking effect—Ismelin produces a clear-cut antihypertensive response in a high percentage of cases.

For complete information on precautions, dosage, and side effects, write to Medical Service Division, CIBA, Summit, New Jersey.

Supplied: ISMELIN *Tablets*, 10 mg. (yellow, scored) and 25 mg. (white, scored); bottles of 100. /2837 MK

ISMELIN® sulfate (guanethidine sulfate CIBA)

ISMELIN

CIBA
Summit, New Jersey

an added measure of protection for little patients

against relapse
against "problem" pathogens

DECLOMYCIN®

DEMETHYLCHLORTETRACYCLINE LEDERLE

pediatric drops
syrup

● full antibiotic activity ● lower milligram intake per dose ● up to 6 days' activity with 4 days' dosage ● uniformly high, sustained peak activity ■ **syrup** (cherry-flavored), 75 mg./5 cc. tsp., bottles of 2 and 16 fl. oz. Dosage: 3 to 6 mg./lb./day—in four divided doses. **pediatric drops,** 60 mg./cc., 3 mg./drop, 10 cc. bottles with calibrated dropper. Dosage: 1 to 2 drops/lb./day—in four divided doses.

PRECAUTIONS: As with many other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs discontinue medication. Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under observation.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

X-RAY TECHNIQUE DETECTS ALMOST ALL BREAST CA

BREAST rests on table over film; tube is tuned down to 26 kv.

A Houston radiologist shows that standard office equipment may provide the means of diagnosing soft-tissue tumors

A new method of detecting breast cancer, which uses standard office equipment, has proved 99 per cent accurate in 2,000 cases. Radiologists say it may become the best method of diagnosing tumors of the breast.

The technique was described at the sixty-first annual meeting of The American Roentgen Ray Society in Atlantic City by its developer, Dr. Robert L. Egan of the M.D. Anderson Hospital and Tumor Institute, of Houston. Its notable features are the reduction of voltage to 26-28 kv, use of a special fine grain film, accurate positioning of the patient and careful evaluation of roentgenographic detail.

An x-ray is first taken from above as the patient sits at a table, resting her breast on a cardboard holder containing the film (Dr. Egan uses Kodak, industrial type M). The nipple is kept in profile and the tube held 22 to 40 inches away, depending upon the size of the breast. Exposure is about six seconds.

Then the patient lies down and a lateral view of the breast, supported by the film holder, is taken to locate the tumor in three dimensions. Dr. Egan has obtained best results with 26 kv for the vertical x-ray and 28 for the lateral, both with current strength of 300 ma. By covering half of an 8x10 film with a lead sheet, a single film is usually sufficient for both breasts. (Both are always examined, he says, and an unsuspected cancer is occasionally found in the other breast.)

Axillary views, to reveal possible metastasis, taken with the breast overhanging the side of the body, are clearest at a higher voltage — 54 kv — and an exposure of 3½ seconds, also at 300 ma. Dr. Egan uses no intensifying screen.

Since May, 1956, when he first attempted diagnostic, soft-tissue mammography, Dr. Egan has examined roentgenograms of some 2,000 patients. Preliminary evaluation indicates accuracy of better than 99 per cent in detecting cancer.

His experience has given Dr. Egan a set of "unmistakable diagnostic signs of cancer of the breast."

A benign tumor, he says, is usually round or oval with a regular smooth outline, often showing a fat layer pushed away by the growth. Malignant tumors have a variable ragged irregular shape, often presenting a starlike appearance indicating invasion of neighboring tissue.

Tissue surrounding a benign tumor is not invaded but merely displaced, while tissue around cancer shows infiltration and retraction. Veins near a cancer can be as much as four times thicker than they are in healthy tissue or around a benign tumor.

Isolated calcification may exist in a benign tumor, but not punctate cal-

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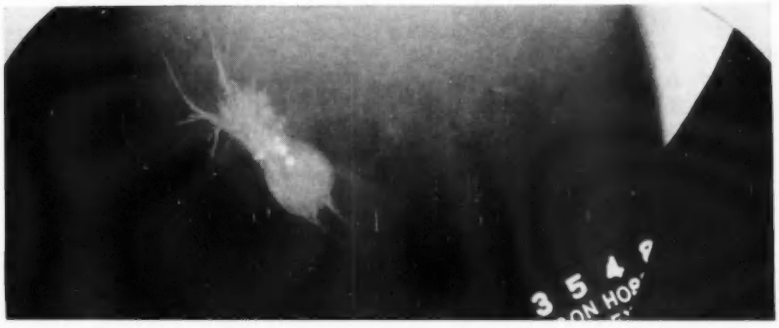
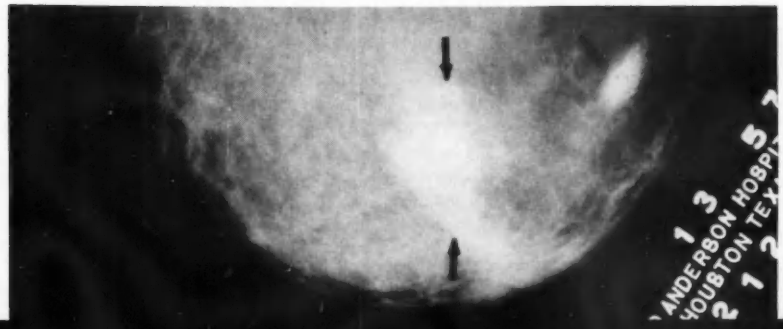




X-RAY (above) shows benign tumor, calcification, beginning of malignant degeneration. Two large cancerous tumors (below) are diagnosed by irregular shape and ragged edges.

RADIOLOGIST Egan developed technique.

BREAST X-RAY CONTINUED

cification—a spotty sand-like effect that invariably means cancer. Nodes in the axilla are considered malignant if they are larger than 1 cm, and if there is a suspicious mass in the breast.

To support his clinical experience, Dr. Egan examined 1,000 consecutive roentgenograms without benefit of clinical or pathological records of the patients. Of 245 patients who had malignancies proved by biopsy, Dr. Egan correctly diagnosed 238. Of the seven tumors he "missed," he later learned that five had been surgically removed before radiography; two were outside of the x-rayed area.

He also diagnosed 19 completely unsuspected cancers that were later confirmed by biopsy. One was a deep tumor no larger than 8mm in diameter that could not be palpated and was unlikely to be spotted by a biopsy.

In another group of 186 patients, biopsy showed 182 had benign lesions, and four, no lesions. Dr. Egan diagnosed 162 as benign, four as negative and 20 as "uncertain, possibly cancerous." The 20 proved to be infected cysts, which may present an appearance similar to malignant tumors.

"With the help of mammography," says Dr. Egan, "not only were 19 unsuspected cancers revealed, but 166 biopsies could have been avoided."

He developed his technique at the suggestion of Dr. Gilbert H. Fletcher, head of the Institute's diagnostic section, who was impressed with results of similar work in Europe. Using a radical mastectomy specimen, Dr. Egan tried high and low voltage, and different screens, films and emulsions until he obtained a clear picture.

Skeptical at first, pathologists, clinicians and surgeons at M.D. Anderson Hospital have come to rely on Dr. Egan's results and today no mastectomy is performed without a previous radiological examination. ■

Product News

TO REDUCE X-RAY EXPOSURE

Minimum Exposure Developer (General Electric) is a high speed x-ray film developer that permits a 12 to 50 per cent cut in exposure time of the patient to irradiation. The new developer produces a radiograph of quality equal to that of slower developers. Designed for use in manual or automatic processing, it can be employed for rapid processing at temperatures up to 85 degrees F., with no detrimental fog. Available in unbreakable calibrated polyethylene bottles, it costs the same as other developers. Introduced at the American Roentgen Ray Society meeting in Atlantic City by General Electric Company, X-Ray Department, 4855 West Electric Avenue, Milwaukee, Wisconsin.

FOR WOMEN ONLY

Deluteval 2X (Squibb) combines hydroxyprogesterone caproate and estradiol valerate to restore normal ovarian function. Both long-acting hormones are present in the ratio most adequate for hemostasis in dysfunctional bleeding, for production of a secretory endometrium and for maintenance of a decidual reaction. The preparation stimulates normal progesterone-estrogen production throughout the second half of the menstrual cycle. Indicated in infertility to maintain decidual reaction, in amenorrhea and irregular bleeding, and in castration and primary ovarian failure. In pregnancy, indicated in habitual, recurrent or threatened abortion. Administered intramuscularly. Available in 5 cc ampules, each cc containing 250 mg hydroxyprogesterone caproate and 5 mg estradiol valerate.

DEBRIDEMENT WITH ENZYMES

Elase (Parke-Davis) furnishes two active bovine enzymes, fibrinolysin and desoxyribonuclease (DNAase), for debridement of wounds and other conditions. Fibrinolysin lyses fibrin in clotted blood, while DNAase lyses desoxyribonucleic acid in purulent exudates containing degenerating leukocytes and other nuclear debris. Indicated in infected and surgical wounds, burns, chronic skin ulcerations, fistulas, abscesses, cervical erosions, and in cervicitis and vaginitis. Available as an ointment; and as a lyophilized powder which must be freshly constituted with isotonic sodium chloride prior to topical use. (Not for parenteral use.) Vaginal applicators for instillation of ointment are also available.

TO UNSTUFF NOSES

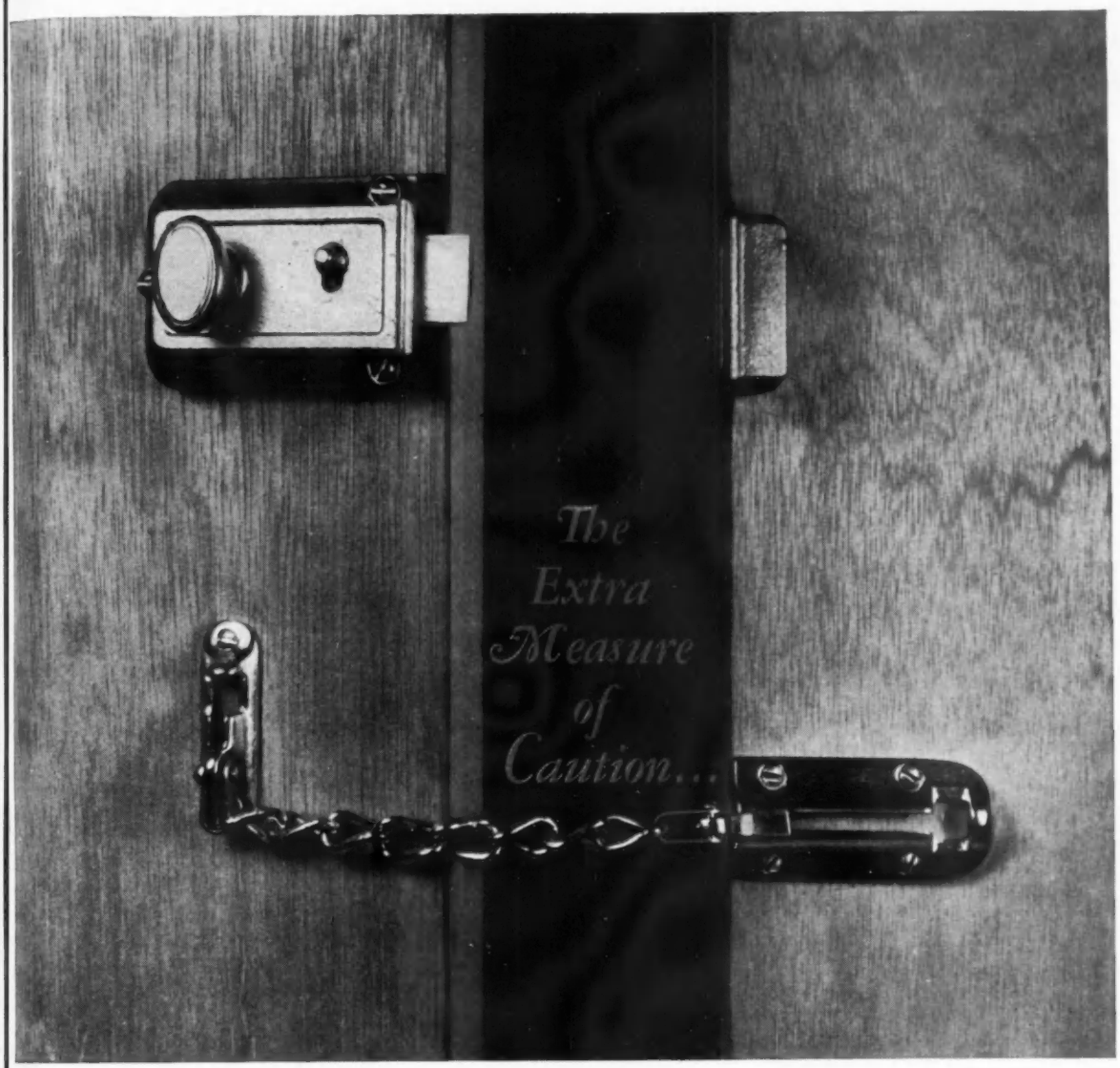
Otrivin Nasal Solution, (CIBA) is a highly active vasoconstrictor, xylometazoline hydrochloride, which relieves edema and hypersecretion of the nasal mucosa. Patients do not become dependent on this topical decongestant after prolonged use. Indicated for symptomatic relief of nasal congestion associated with colds, hay fever, sinusitis and similar conditions. (*Otrivin Pediatric Nasal Spray* should be used for children under 12.) Occasional side effects are mild and similar to those of other topical nasal vasoconstrictors. Dosage is two or three drops every 3 to 4 hours. Medication must reach the inflamed mucosa to be effective. Available in dropper bottles of 30 ml. *Pediatric Nasal Spray,* 0.05 per cent, available in squeeze tubes of 15 ml.

FOR INCREASED ANALGESIA

Darvon Compound-65 (Lilly) supplies the same four drugs as *Darvon Compound*—but with double the *Darvon* content (65 mg) for increased analgesia. The concentration of the other three ingredients remains the same. They are: 162 mg acetophenetidin, 227 mg acetylsalicylic acid and 32.4 mg caffeine. Dosage is one "pulvule" 3 or 4 times daily. It is available in bottles of 100 and does not require a narcotic prescription.

IN PEDIATRIC INFECTIONS

Coplexen (Smith Kline & French) relieves respiratory infections in children without the use of narcotics or barbiturates. Contains three active ingredients: acetaminophen to reduce fever and muscular aches and pains; phenylpropanolamine to relieve nasal stuffiness and facilitate sinus cavity drainage; and trimeprezine to control cough for at least four hours, reduce excessive nasal secretion, stop nausea and vomiting, and relieve irritability, restlessness and insomnia. Available as a currant-flavored liquid.



Tetracycline now combined with the new, more active antifungal antibiotic – Fungizone – for broad spectrum therapy / antimonilial prophylaxis

A new advance in broad spectrum antibiotic therapy, MYSTECLIN-F provides all the well-known benefits of tetracycline and also contains the new, clinically proved antifungal antibiotic, Fungizone. This Squibb-developed antibiotic, which is unusually free of side effects on oral administration when given in oral prophylactic doses, has substantially greater in vitro activity than nystatin against strains of Candida (Monilia) albicans.

Thus, in addition to providing highly effective broad spectrum therapy, MYSTECLIN-F prevents the monilial overgrowth in the gastrointestinal tract so commonly associated with such therapy. It helps to protect the patient from troublesome, even serious, monilial complications.

New Mysteclin-F provides this added antifungal protection at little increased cost to your patients over ordinary tetracycline preparations.

Available as: MYSTECLIN-F CAPSULES (250 mg./50 mg.) MYSTECLIN-F HALF STRENGTH CAPSULES (125 mg./25 mg.) MYSTECLIN-F FOR SYRUP (125 mg./25 mg. per 5 cc.) MYSTECLIN-F FOR AQUEOUS DROPS (100 mg./20 mg. per cc.)

For complete information, consult package insert or write to Professional Service Department, Squibb, 745 Fifth Avenue, N. Y. 22, N. Y.

NEW

MYSTECLIN-F

Squibb Phosphate-Potentiated Tetracycline (SUMYCIN) *plus* Amphotericin B (FUNGIZONE)

SQUIBB *Squibb Quality – the Priceless Ingredient*

"MYSTECLIN"®, "SUMYCIN"® AND "FUNGIZONE"® ARE SQUIBB TRADEMARKS

in the family circle...all-round, year-round vitamin support with **ABDEC**® Kapseals®

ABDEC Kapseals provide comprehensive multivitamin protection all through the year. Each ABDEC Kapseal contains: Vitamin A–10,000 units (3 mg.); Vitamin D–1,000 units (25 mcg.); Vitamin C (ascorbic acid)–75 mg.; Vitamin B_1 (thiamine) mononitrate–5 mg.; Vitamin B_2 (G) (riboflavin)–3 mg.; Vitamin B_6 (pyridoxine hydrochloride)–1.5 mg.; Vitamin B_{12} (crystalline)–2 mcg.; dl-Panthenol–10 mg.; Nicotinamide (niacinamide)–25 mg.; Vitamin E (supplied as d-alpha-tocopheryl acid succinate) – 5 I. U.

DOSAGE: for the average patient, 1 ABDEC Kapseal daily. ABDEC Kapseals are supplied in bottles of 50, 100, 250, and 1,000. Also available: ABDEC Drops in 15-cc. and 50-cc. bottles with calibrated plastic droppers. 33460

PARKE, DAVIS & COMPANY • **DETROIT 32, MICHIGAN**

PARKE-DAVIS

DOCTOR'S BUSINESS

Write your prescriptions by phone

The day is approaching when you will be able to write a prescription over the phone rather than phone it in—thus eliminating any possibility of error. The Comptometer Corporation, manufacturer of the Electrowriter, and the TELautograph Corporation have both perfected electronic transmitters which make possible written messages over ordinary phone lines. The American Telephone and Telegraph Company has tested and approved the equipment.

Record number of drugs tested

A total of 100,200 chemicals or other substances were biologically tested by the drug industry in 1959; another 1,936 underwent clinical testing. According to the Pharmaceutical Manufacturers Association a breakdown, by type of disease, of drugs clinically tested included: allergy and infectious diseases, 841; arthritis and metabolic disorders, 217; cancer, 59; heart, 164; mental health, neurological diseases and blindness, 321; others, 334.

Health insurance claims on the rise

Insurance companies report they are paying more health insurance claims than ever, with the figure now running at over $3 billion a year. Total payments are up 8 per cent over a year ago. The biggest increase (26 per cent) is for benefits ($5,000 to $15,000) paid through major medical expense insurance to help offset cost of serious illnesses. Payments for regular medical expenses are up about 11 per cent, while hospital coverage benefits are up almost 10 per cent.

There's gold in them thar drills

Most estimates put the income of dentists considerably below that of physicians, but a recent survey by the American Dental Association indicates that dentists are catching up. The average (mean) net income for nonsalaried dentists in 1958 was $14,311—a 15 per cent increase in three years. Average gross income was $26,030, and 45 per cent of the gross went into professional expenses. The typical dentist, according to the ADA study, hits his earning peak between the ages of 35-44. Dental incomes are highest in the far western, lowest in the middle eastern states.

Names in the News

POSTS AND AWARDS

Dr. H. William Harris, named professor and chairman of the department of medicine at The Woman's Medical College of Pennsylvania, Philadelphia. He had formerly been associate professor of medicine and head of the pulmonary disease division at the University of Utah College of Medicine, Salt Lake City.

Dr. Elbert D. Rice of Tyler, Tex., honored as General Practitioner of the Year by the Texas Medical Association. A practicing physician in Tyler for 40 years, he worked as a rural mail carrier in order to put himself through college.

Dr. Joseph A. Wells, professor of pharmacology at Northwestern University Medical School, Chicago, appointed chairman of the school's pharmacology department.

Dr. George M. Wheatley, head of the division on health and welfare of the Metropolitan Life Insurance Co., named president of the American Academy of Pediatrics, succeeding **Dr. William W. Belford** of San Diego, Calif. **Dr. Carl C. Fischer,** chief of the department of pediatrics at Hahnemann Medical College in Philadelphia, is the president-elect.

Dr. Harold I. Amory, former chief of radiological services at the Walter Reed Army Hospital, appointed professor and chairman of the department of radiology at the West Virginia University Medical Center, Morgantown.

Dr. Frank M. Huennekens, associate professor of biochemistry at the University of Washington School of Medicine named winner of the American Chemical Society's Paul-Lewis Laboratory Award for fundamental research in the field of enzyme chemistry.

Dr. Peyton Rous, member emeritus of the Rockefeller Institute, will serve as first chairman of the board of scientific consultants of the Sloan-Kettering Institute for Cancer Research.

OBITUARIES

Dr. D. J. Ruzicka, 90, retired general practitioner and "dean" of American amateur photographers; he studied in Vienna with Dr. Wilhelm Roentgen, and as a result of extensive use of x-ray apparatus he contracted cancer, losing several fingers and part of his face; Sept. 30, in New York City.

Dr. D. Ward Scanlon, 73, retired physician and former director of the Atlantic City Hospital and during World War II, chief of the civil defense emergency medical station in Atlantic City; Sept. 17, in Margate City, N. J.

Dr. Henry T. Hutchins, 83, Baltimore and Boston gynecologist; retired surgeon-in-chief of the Massachusetts Women's Hospital, he had been on the house staff of Johns Hopkins Hospital since 1903; Sept. 23, in Garrison, Md.

Dr. B. Aubrey Schneider, 48, assistant director of the American Cancer Society's statistical research section; a medical statistician with the Air Force, he analysed injuries sustained in aircraft accidents and also made studies of medical records of Hiroshima and Nagasaki air-raid victims; of a heart attack; Sept. 22, in Bergenfield, N. J.

Dr. Brooks A. Brice, 56, U.S. Department of Agriculture physicist, he headed the animal fat properties laboratory in the eastern utilization division; Sept. 19, in Philadelphia.

Dr. Julius Molnar, 63, director of the Stuyvesant-Polyclinic Laboratories, New York City; a pathologist, he was a specialist in cholesterol metabolism; Sept. 17, in New York City.

Dr. E. J. Campbell, 68, retired physician and former medical director of the New York Life Insurance Co., of cancer of the tongue and prostatism; Sept. 21, in New Rochelle, N. Y.

Dr. Wesley R. Coe, 93, former professor of biology at Yale and research associate at the University of California's Scripps Institute of Oceanography; Sept. 21, in Chula Vista, Calif.

MEETINGS

Oct. 30-Nov. 3	Southern Medical Association, *St. Louis*
Oct. 30-Nov. 4	American Public Health Association, *San Francisco*
Oct. 30-Nov. 4	American School Health Association, *San Francisco*
Oct. 31-Nov. 2	Assoc. of Military Surgeons of the United States, *Wash., D. C.*
Oct. 31-Nov. 2	Assoc. of American Medical Colleges, *Hollywood Beach, Fla.*
Oct. 31-Nov. 3	Omaha Mid-West Clinical Society, *Omaha*
Oct. 31-Nov. 2	Interstate Postgraduate Medical Association of North America, *Pittsburgh*
Nov. 2-5	American Society of Tropical Medicine and Hygiene, *Los Angeles*
Nov. 3-4	Int'l Conference on "Muscle as a Tissue," *Philadelphia*
Nov. 4-5	Association of Clinical Scientists, *Washington, D. C.*
Nov. 4-5	Central Society for Clinical Research, *Chicago*
Nov. 10-13	Pacific Coast Fertility Society, *Las Vegas*

UPCOMING

Nov. 28-Dec. 1	AMA—14th Clinical Meeting, *Washington, D. C.*
Dec. 9-10	N.Y. Heart Assoc., Symposium on the Myocardium, *N. Y. C.*
Dec. 26-31	American Association for the Advancement of Science, *N. Y. C.*

ADVERTISER INDEX

ACKNOWLEDGMENTS: Cover, Ezra Stoller; 7 Rockefeller Center; 10, 11 UPI; 12, 13 Jerry Cooke; 14 Archie Lieberman-Black Star; 18 NIH Photo; 25 M.D. Anderson Hospital; 26 Syd Stoen; 32 Joseph Merante

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ORLD NEWS